Ski and/or Board Carriage Assembly

The invention to which this application relates is a carriage assembly for use for the transport of skis and/or boards in particular snow skis. However the assembly is also applicable to other ski-board type articles such as snow boards, water skis, surfboards and the like and hereafter referred to as skis. The carriage is provided to allow the skis to be transported when the same are not being worn for use.

Although the invention is now described with reference to skis, the problems associated with the same can be encountered in many other forms of sports or activities where relatively elongate objects, skis or boards are required to be carried to and from a location where the activity can be performed. The scope of the application should be interpreted as extending to other objects which can be utilised in conjunction with the invention as herein described.

A known problem with the activity of skiing is that on many occasions, the location at which the skis are stored when not in use is some distance away from the location, i.e. the bottom of the ski slope, where the main lifts are to be found and, at which the skis can be positioned on the feet for use and/or taken aboard the cable car etc prior to skiing.. This therefore means that the skis, ski poles and perhaps other associated apparatus, need to be carried to the bottom of the ski slope. The skis cannot be worn as, unless there is snow on the ground, the skis can be badly damaged. Furthermore, the journey to the bottom of the ski slope can involve significant distance across flat and/or uphill sections which means that the same cannot be easily worn even if there is snow on the ground.

Conventionally, the skis are carried with the bases of each ski face to face. The bindings of the same may be used to try and interlock the skis together so that the same can then be carried on one shoulder. The ski poles can then be grasped in the hand. At best, this can be heavy and cumbersome to the person carrying the same but at worst, and when one considers that conditions underfoot may be treacherous due to ice and/or snow, and the person is typically wearing ski boots which are difficult to walk in on snow and that the area in which the person may be carrying the skis can be busy, one will readily appreciate that significant problems can be encountered by the person carrying the skis and there is a risk of danger to persons and/or property in the vicinity of the skis and ski poles. It is also commonly the case that the skis can dislocate from one another thereby protruding to the back and side of the person and if for example, the person turns round with the skis in this position, significant problems can be encountered for themselves and others. A further problem is that when normally carrying the skis, the edges of the same can cause damage to clothing such as the skier's gloves.

A further problem experienced by adults who have children is that the child's skis and ski poles can be too heavy and/or cumbersome for the child to carry which means that the adult is then left to try and carry their own skis and the child's skis, which makes the problems experienced even worse.

A yet further problem is that the problems of transporting skis represent one of the barriers to the disabled person enjoying skiing as they can find it difficult or impossible to transport the skis to and from the ski slope.

The aim of the present invention is to provide a means whereby the skis and, as required, other accessories, can be transported when not attached to the user's feet in an efficient and less cumbersome manner thereby improving safety and convenience to the person with the skis and to others in their vicinity.

In a first aspect of the invention there is provided an assembly for the carriage of skis across a surface, said assembly including reception means for the reception of the ends of each ski, and gripping means wherein said reception means are connected to at least one wheel, roller and/or skid for contact with the surface to allow the skis to be pulled or pushed by a person along the surface and said gripping means are attached to the skis at a location remote from the reception means.

In one embodiment and dependent upon the surface conditions the wheels or rollers may be replaced by or used in conjunction with a skid or skids. In a further embodiment a skid formation is provided on the reception means to allow a combination of skids and wheels or rollers to be provided on the reception means. In a yet further embodiment the skids or wheels or rollers can be selectively positioned for use by the user depending on the surface conditions.

In one embodiment the reception means includes a part which is movable between in use and storage conditions. In the storage condition the gripping means of the assembly are received in the reception means and in an in-use condition are removable from the reception means to be attached to the remote location on the skis. The gripping and reception means can be used alone.

In an alternative embodiment the gripping means include a portion which is attachable with the reception means. The same or another portion is provided to locate with the bindings

provided on the skis. In one embodiment said portion is range taking in that it is adapted to locate with various binding designs. In one embodiment the portion is provided as part of the reception means when in the storage condition.

In a preferred embodiment the gripping means are attached to the reception means when in the in-use condition, in one embodiment via at least one, preferably elasticated, cords.

In one embodiment the assembly includes a security function wherein the reception means and/or gripping means include securing means which allow the securing of the assembly to the skis to secure the same together and preferably securing means are provided to allow the same to be secured to another article such as a ski rack. This securing means may for example be similar to a bike securing chain with a lock. As the skis are secured to the assembly, the securing of the assembly to the further article provides a secured unit.

Different embodiments of the assembly can be provided to suit particular requirements. In a preferred embodiment the assembly is provided with location means which allow interconnection with other assemblies to allow a plurality of pairs of skis and/or ski poles to be received such that one person can transport skis for other persons, such as a child, as well as their own. In an alternative embodiment, the additional skis or boards may not be received by the assembly but are instead connected by straps or other fixing means to the first pair of skis which are received by the assembly. For example, a child's skis, which are smaller in size can be attached to an adult pair of skis held in the assembly.

In a further embodiment, the assembly is movable from an in-use position in which the wheels or rollers are spaced apart and

held in a formation with respect to the location of the skis, and a storage position in which the wheels or rollers can be moved together and/or collapsed or reduced in size to form a storage pack for carry or storage when not in use. In one embodiment the assembly effectively folds into itself to form the storage pack and in one embodiment part of the assembly is also utilised to form the outer housing of the storage pack.

In one embodiment, the assembly in the storage position is provided to be worn on the person, for example, as part of a belt, or around the wrist via a strap.

In one embodiment, the skis are pulled or pushed by the person gripping the gripping means at a portion of the skis at the position spaced from the ends of the skis located with the reception means. In a further embodiment, the gripping means include one or a number of straps which have the function of keeping the skis together in the face to face relationship. The straps can be provided with a handle or gripping portion which allows the user to grip the same to push or pull the skis. In one embodiment the straps are elasticised to extend and engage with and around the skis or ski bindings to locate the skis together and also locate the skis with respect to the reception means. In addition or alternatively, the strap or straps can be provided to be retractable and if required a retracting mechanism mounted on the frame.

In a further embodiment, the assembly includes a shroud, said shroud provided to receive the entire length of the skis therein such that when the skis are positioned therein, the shroud can be closed. The reception means can be provided as part of the shroud, or provided separately but attached to the ski ends, and used to move the skis along the surface. This embodiment has the additional benefit in that the shroud can be used as a ski bag

thereby allowing the same to be used when transporting skis in aircraft, cars, trains and the like.

In one embodiment, the wheels can be mounted on an axle which is collapsible so as to allow the same to be reduced in size for storage purposes. Alternatively the wheels or rollers can be mounted independently on axles connected to the reception means. The wheels themselves can also be deformable to allow the same to be reduced in size for storage purposes.

In whichever embodiment herein described the assembly can include a barrier system to minimise or prevent the ingress of foreign matter onto the area between the wheels or rollers and the surrounding frame so as to reduce the risk of clogging or jamming of the rotation of the wheels or rollers. In one embodiment the barrier is a brush strip, scraper strip or the like of any suitable material such as foam/rubber/plastic.

In one embodiment the wheels or rollers are movable between storage and in use conditions and as they are moved to the in-use conditions a clamping arm is moved between a released position and a clamping position in which the skis are located and clamped in position in the device assembly.

In a preferred embodiment, the assembly includes location means for the reception of ski poles. The reception means are typically provided to allow the ski poles to be held in location with the skis and in parallel therewith thereby providing further transport advantage without unduly affecting the size of the assembly.

The present invention therefore provides significant advantage to a person as they are no longer required to carry skis and ski poles for a distance while they are walking. Firstly, the skis are

held together, and preferably in conjunction with the ski poles, to form one unit rather than the conventional means whereby the skis can come apart, the ski poles are to be carried separately, and so on. Secondly, as the skis and ski poles can be dealt with as one unit, the provision of the wheels or rollers allows the same to be simply pushed or pulled along the surface, as a person walks, by the person either gripping the skis or ski poles directly or gripping the gripping means. Furthermore, when one considers that the skis and poles, in addition to being bulky, unwieldy and potentially of danger to others, are also heavy, particularly for children, and furthermore that the person is usually wearing ski boots which can be difficult to walk in, it will be appreciated that the present invention, by removing all of these problems, is of considerable benefit.

Specific embodiments of the invention is now described with reference to the accompanying drawings, wherein:-

Figures 1a-c illustrate an assembly in one embodiment in a storage position;

Figures 2a-c illustrate the assembly of Figure 1 being moved to an in-use position;

Figures 3a-c illustrate the assembly of Figures 1 and 2 in use.

Figures 4a-c illustrate an assembly according to a further embodiment of the invention;

Figures 5a-e illustrate an assembly in accordance with a third embodiment of the invention;

Figure 6 illustrates a further embodiment of the invention; and

Figures 7a-d illustrate a fourth embodiment of the invention.

Referring firstly to Figures 1a-c, there is illustrated a first embodiment of the assembly, when in a storage condition. The assembly comprises first and second wheels or rollers 4, which are mounted to either side of the body 6. The wheels or rollers are attached by axles to the body for rotation as indicated by the arrows 8, 10. The clearance between the wheels when on a surface, and the underside 14 of the body, is kept to a relatively small distance such that if, for example, the wheels or rollers go over a surface which is relatively rough or the wheels or rollers become clogged with material such as snow, the underside of the body can act as a skid 16. Typically, to aid this, the underside is provided with ridges. Further means can be provided in the form of a stand 23 to prevent the assembly from sliding sideways across a slope and therefore prevent the assembly from being out of control of the user when being used to move the skis attached thereto. In order to minimise the risk of ingress of foreign matter to clog or jam the rotation of the wheels a barrier strip can be provided with a free edge which lies adjacent the outer surface of the wheel or roller to wipe or scrape away any material which may be picked up by the wheel and although not shown is typically provided at location 27.

The body also includes a reception area 20 for the reception of the ends of the skis. The reception area 20 can be formed with reception means as part thereof which may simply define a cavity into which the ends are placed or may actually exert a gripping action on the skis when placed therein.

This portion is also provided with an underside 22 which acts as a support when the device is in use, said support gripping into the surface at a suitable angle so as to prevent the body 6 from rolling away from a stationary position such as for example

when the skis are placed against a wall or other surface in a substantially vertical plane. The step portion prevents the device from moving away from the wall on the surface.

Also defined within the body is a cavity which will now be described with reference to Figures 2a to c.

Figures 2a to c illustrate the movement and rearrangement of the assembly from the storage position of Figure 1 to the in-use position of Figures 3a to c. In Figure 2a, access is gained to the cavity 24 by the release of a clip portion 26. With the clip portion released, so a first portion 28 of the gripping means 30 of the assembly is released. This portion 28 is, in turn, attached to two elasticated cords 32 which extend from the released portion 28 to the body 6 which form the reception means 24 which is the part which is left once the gripping means have been moved to an in-use position. The gripping means 30 are therefore removed from the cavity and body and extended upwardly away from the body. When moving from the Figures of 2a-c to the arrangement shown in Figures 3a-c, which is the in-use condition, the ends of the skis 36 are placed in the location portion 38 of the reception means 34 which is that part of the assembly which remains with the wheels to be in contact with the surface. The gripping means 30 is extended away from the reception means along the length of the skis to the location of the bindings 40 on the skis is reached. At this stage, further extension occurs until the gripping means portion 28 has gone beyond the bindings whereupon the same is brought to the ski surface and then moved onto the upper face 42 of the binding. The action of the elasticated cords 32 serves to force the gripping means portion 28 onto the binding and hence locate the same accurately. The gripping means also include a strap arrangement 44 which is provided to pass around the skis as shown by arrows 46 to effectively clamp the skis together. The

strap arrangement can incorporate hook and loop fastening so as to allow the engagement of the strap arrangement. Also provided as part of the gripping means can be provided a handle or handle loop 48 which allows the same to be used by the person required to push or pull the skis when in the in-use condition. It will therefore be appreciated that the skis are now held in a fixed arrangement with regard to the gripping means and the reception means of the assembly of the invention.

To remove the skis, the strap arrangement 44 is first released and then the gripping means portion 28 moved away from the binding 40 and returned to the body 6 of the reception means whereupon the assembly is again in a storage condition for carrying as shown in Figure 1a and/or storing at a location.

In addition to the single unit arrangement as herein described, the body of the assembly also includes location means 50 which allow for the receipt of location means on a further, similar assembly and so on so as to allow the location of side by side assemblies in accordance with the invention to allow a unitary body to be formed with each assembly in the unitary body allowing the carrying of at least one set of skis. It will therefore be appreciated that by joining the assemblies together, so one person may be able to pull or push a series of sets of skis so that for example, if a person is required to carry their own skis and their children's skis, they can do so relatively straight forwardly. Furthermore, the assemblies are relatively easily disengageable so that if at a certain location, a series of people are required to go in different directions, they can easily do so at that stage and each pull or push their own skis using their own particular assembly in accordance with the invention.

The assembly can also be adapted to allow particular ski or board designs to be carried thereon and this can either be by the

particular design of the assembly or by the provision of additional components which can be selectively fitted to the assembly so as to define a location area suitable for the particular design of, for example, a snow board, surf board, water skis, golf bags and the like. In certain embodiments, the further articles which are carried may rely on the provision of a set of skis for the formation of the in-use condition.

Referring now to Figure 4 there is illustrated an assembly 102 in accordance with the invention in a further embodiment. The assembly comprises first and second wheels 104, which are shown in a position in use and located on a surface such as a pavement, road or the like. The wheels are provided in contact with a location portion 106, which can include an axle 108 which passes between the wheels 102 or, alternatively, each wheel can be separately mounted for rotation with regard to the location portion. The location portion 106, in this embodiment, comprises a pouch or wallet which is dimensioned to receive, as shown, the ends of respective skis. The location portion therefore firstly locates the ends of the skis in relation with the wheels and, furthermore, keeps the ski ends in the face to face relationship as shown. Also provided in the location means, although not shown, are holders for the reception of the ends of ski poles. In addition to the location means, location straps 126 are provided to secure the skis in position with each other and also with respect to the assembly for transport. The assembly also includes a grip portion 127 with which the skis and hence assembly can be gripped to move the same along the surface. Further securing means can be provided along the length of the skis to maintain the skis and ski poles in a face to face relationship.

Figures 5a-e illustrate a further embodiment of the invention where, in this case, a slightly different arrangement of

components is provided but the same reference numerals are used to describe the same components as Figure 4. In this case the skis 112, 114 are shown in Figure 5e in the position for carriage. The ends 115, 116 are located in the reception means 106 and in this case a strap 130, typically elasticised is provided to be extended once the skis are in position, by the user, to locate around the bindings 132 of the skis. This strap serves to locate the skis together and also locate the skis in position with regard to the assembly. The strap can be provided with the grip 127 connected thereto so as to allow gripping of the assembly and also secure the strap in connection with the skis.

Figure 5d illustrates how the wheels 104 can be moved in this embodiment from a storage to in use position. In the first step, the wheels 104 are pulled from a clamp housing from position 1 to position 2. The wheels are then pulled over the clamp 133 to the position 3 and in turn moved to position 4 which secures the clamp 133 which is also moving, to the skis. With the wheels in position the strap 132 can be moved to the position shown in Figure 5a. Figures 5a-c illustrate how the frame of the assembly, can be moved from the storage position shown in Figure 5a to the in use position in Figure 5e. In the first instance the upper members 135 are folded outwardly from the base member 137 at the reception location 106, by movement about pivot point 139. The upper members can then be extended telescopically as shown in Figure 5c to the extended in use position with the clamping member 133 also positioned as shown in Figure 5c.

Figure 6 illustrates a yet further embodiment of the invention and in this case, the wheels and use of the assembly is the same as with the previous embodiments but the skis are located in a reception means 106 of a different configuration. Although not shown a shroud can be attached to this or any of the embodiments which acts to fully enclose the length of the skis

but still allow the skis to be pulled or pushed along a surface in the same manner as previously described. This embodiment has a further function in that the shroud can be used as a ski bag thereby allowing the skis to be transported within the shroud over relatively short distances for which the current invention is of use and also for transport over longer distances by plane, train or car and therefore overcomes the need for a person to have both the invention of the current application and also a ski bag.

Figures 7a-d illustrate a further embodiment of the invention in which the frame of the device is illustrated in one embodiment. Figures 7a and b illustrate the frame in an extended in use position and Figures 7c and d illustrate the frame in a collapsed storage position. The same reference numerals as previously are used to describe the various components and it will be seen that to move the frame from the in use position, the upper portion 150 which is held in an extended position as shown for use, is telescopically moved downwardly with respect to the portion 152 to bring the same to the position shown in Figures 7c and d. Preferably a number of portions are provided to be telescopically moved so as to allow the storage position of the device to be as small as possible. Cross members 154 can be provided at spaced intervals to add rigidity to the assembly. In this position, the wheels 104 which are each mounted on their own axle 156, can be moved from the in use position shown in Figures 7a and b, to the storage position of Figure 7d. This is achieved by the rotation about respective pivot points provided on any of the axle; where the axle meets the wheel or member; between the member 152 and the cross member 154; or between the portion 158 on which the wheel axle is mounted and the remainder of the portion 152. In any case the wheels are moved through 90 degrees to take the side by side storage position

shown in Figure 7d, thereby greatly reducing the dimensions of the device when in the storage position.

There is a need for the assembly to be easily stored both for packaging purposes but more importantly for carrying when the person is skiing, having transported their skis using the assembly, to a ski slope.

In this example, the assembly is collapsible to a storage condition typically by dislocation of any axle between the wheels and the relative folding inwardly of the wheels, and the use, as far as possible, of flexible materials to form the various components of the assembly. As such, the assembly is preferably moved to a storage condition in which the same forms a storage pack of a size and dimension which can be placed on the persons body, placed in an item of clothing, placed in an area for storage or worn by the person when skiing without risk of either undue weight being carried by the skier or injury to the skier should they fall. The use of the flexible material allows a degree of padding to be provided to the pack so formed but also ensures that the weight of the pack is relatively light.

Yet further, it is preferred that the storage pack is provided in a form to allow the same to be worn, typically by providing the pack of a flexible material in conjunction with a belt thereby allowing the pack to be worn around the waist with the pack itself being located at the persons stomach area. It is believed that this will minimise the inconvenience to the wearer and also minimise the risk of injury to the wearer.